

Complete Summary

GUIDELINE TITLE

Principles of appropriate antibiotic use for acute pharyngitis in adults.

BIBLIOGRAPHIC SOURCE(S)

Snow V, Mottur-Pilson C, Cooper RJ, Hoffman JR. Principles of appropriate antibiotic use for acute pharyngitis in adults. Ann Intern Med 2001 Mar 20;134(6):506-8. [1 reference]

COMPLETE SUMMARY CONTENT

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SCOPE

DISEASE/CONDITION(S)

Acute pharyngitis

The guideline does not cover gonococcal pharyngitis and diphtheria.

GUIDELINE CATEGORY

Diagnosis
 Treatment

CLINICAL SPECIALTY

Emergency Medicine
 Family Practice
 Infectious Diseases
 Internal Medicine

INTENDED USERS

Physicians

GUIDELINE OBJECTIVE(S)

To provide specific recommendations on how clinicians can distinguish and diagnose pharyngitis caused by group A beta-hemolytic streptococcus (GABHS), when antibiotic use is beneficial and which antibiotics should be used

TARGET POPULATION

Adults (≥ 18 years of age) with acute pharyngitis.

These guidelines do not apply to patients with a history of rheumatic fever, valvular heart disease, immunosuppression, or recurrent or chronic pharyngitis (symptoms > 7 days), or to patients whose sore throats have a cause other than acute infectious pharyngitis. They are not intended to apply during a known epidemic of acute rheumatic fever or streptococcal pharyngitis or in nonindustrialized countries in which the endemic rate of acute rheumatic fever is much higher than in the United States.

INTERVENTIONS AND PRACTICES CONSIDERED

Diagnosis

1. Throat culture
2. Clinical screening (history and physical examination)
3. Rapid antigen testing

Treatment

1. Antibiotic therapy
 - Penicillin
 - Erythromycin
2. Symptomatic treatment

MAJOR OUTCOMES CONSIDERED

- Diagnostic accuracy
- Treatment response
- Prevention of complications associated with disease progression
- Relief/improvement of symptoms

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Hand-searches of Published Literature (Secondary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

A systematic review of the literature from 1950 to 2000 for these evidence-based management principles was conducted. All randomized, controlled trials or meta-analyses of randomized, controlled trials that contained clear definitions of criteria for inclusion, diagnosis, and outcomes, as well as studies evaluating diagnostic strategies for group A beta-hemolytic streptococcus (GABHS) pharyngitis were identified. MEDLINE and the Cochrane Library were searched, and the references of the inception articles to identify other studies were also searched. The search strategy sought English-language articles and used the keywords sore throat, group A streptococcus, pharyngitis, tonsillitis, streptococcal pharyngitis, throat culture, and strep. Many of the identified articles had easily recognizable methodologic flaws (for example, use of convenience samples, exclusion of patients without a throat culture or those without a positive throat culture, and lack of an appropriate or clearly identified criterion standard), and these limitations were considered when evaluating the evidence and making the recommendations. Furthermore, the efficacy reported in the clinical trials may have been affected in part by repeated clinic visits, repeated cultures, and checks of patient adherence to pill ingestion, all of which would result in overestimation of the effect size of treatment. The various trials were not mathematically summarized because of the variable quality of the cited evidence.

From: Cooper RJ, Hoffman JR, Bartlett JG, Besser RE, Gonzales R, Hickner JM, Sande MA. Principles of appropriate antibiotic use for acute pharyngitis in adults: background. *Ann Intern Med* 2001 Mar 20;134(6):509-17.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Levels of Evidence

A

Etiology or Diagnosis Studies: independent, blinded comparison with reference standard in appropriate spectrum of patients, all of whom have undergone both the diagnostic test in question and testing with the current gold standard; or validated prediction rule.

Treatment or Efficacy Studies: randomized, placebo-controlled trials with little or no heterogeneity.

B

Etiology or Diagnosis Studies: independent, blinded comparison in patients not enrolled consecutively or in a narrow spectrum of patients; or nonvalidated prediction rule.

Treatment or Efficacy Studies: randomized, placebo-controlled trials with some heterogeneity; or well-designed cohort studies.

C

Etiology or Diagnosis Studies: independent, blind comparison, but reference standard not applied to all patients.

Treatment or Efficacy Studies: case series or poor cohort studies.

D

Etiology or Diagnosis Studies: reference standard not applied independently or not applied in a blind manner; or expert opinion.

Treatment or Efficacy Studies: expert opinion.

From: Gonzales R, Bartlett JG, Besser RE, Cooper RJ, Hickner JM, Hoffman JR, Sande MA. Principles of appropriate antibiotic use for treatment of acute respiratory tract infections in adults: background, specific aims, and methods. Ann Intern Med 2001 Mar 20; 134(6): 479-86.

METHODS USED TO ANALYZE THE EVIDENCE

Review of Published Meta-Analyses

Systematic Review with Evidence Tables

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

See: Gonzales R, Bartlett JG, Besser RE, Cooper RJ, Hickner JM, Hoffman JR, Sande MA. Principles of appropriate antibiotic use for treatment of acute respiratory tract infections in adults: background, specific aims, and methods. Ann Intern Med 2001 Mar 20; 134(6): 479-86.

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

External Peer Review

Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Comments were solicited from the American College of Physicians (ACP) Clinical Efficacy Analysis Subcommittee; the Respiratory Diseases Branch of the National Center for Infectious Diseases, Centers for Disease Control and Prevention (CDC); and selected individuals. It was approved by the Clinical Efficacy Assessment Committee in June 2000 and by the American College of Physicians Board of Regents in July 2000. The guideline underwent peer review for publication in the journal "Annals of Internal Medicine."

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

1. All patients with pharyngitis should be offered appropriate doses of analgesics, antipyretics, and other supportive care.
2. Physicians should limit antimicrobial prescriptions to patients who are most likely to have group A beta-hemolytic streptococcus.
3. The preferred antimicrobial agent for treatment of acute group A beta-hemolytic streptococcus pharyngitis is penicillin, or erythromycin in penicillin-allergic patients.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The recommendations are supported by the high quality evidence presented in the clinical practice guideline, part 2: Cooper RJ, Hoffman JR, Bartlett JG, Besser RE, Gonzales R, Hickner JM, Sande MA. Principles of appropriate antibiotic use for acute pharyngitis in adults: background. *Ann Intern Med* 2001 Mar 20;134(6):509-17.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Besides decreasing the risk for allergic reactions, adverse reactions, and drug-drug reactions, the intended result of efforts to decrease indiscriminant antibiotic use in the ambulatory setting is to reduce (and preferably reverse) the increase in antibiotic-resistant *Streptococcus pneumoniae*. It is encouraging that in Finland, a 40% reduction in community use of macrolides was associated with a 48% decrease in the prevalence of erythromycin resistance among group A streptococcal isolates over 4 years.

Reasons to consider prescribing antimicrobials to treat streptococcal pharyngitis include a desire to prevent rheumatic fever, prevent acute glomerulonephritis, prevent suppurative complications, decrease contagion, and ameliorate symptoms.

POTENTIAL HARMS

If a benefit of indiscriminant antibiotic use on rare clinical outcomes does exist, it is possible that limiting indiscriminant antibiotic prescribing will attenuate this benefit. A risk or harm voiced more frequently, however, is that not prescribing an antibiotic will lead to patient dissatisfaction with care or increased return visits. In a study of adults seeking care for acute respiratory illness, the quality of the clinician-patient interaction rather than receipt of an antibiotic was the most important determinant of patient satisfaction with care. A recent patient and clinician educational intervention that reduced antibiotic prescribing for adults with acute bronchitis did not lead to increased return visits or dissatisfaction with care.

Subgroups Most Likely to be Harmed:

Group A beta-hemolytic streptococcus (GABHS) is more likely to spread in environments frequented by health care or child care workers, teachers, and parents of young children, and those at risk for exposure may be at greater risk for complications of group A beta-hemolytic streptococcus infection.

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

- Clinical practice guidelines are "guides" only and may not apply to all patients and all clinical situations. Thus, they are not intended to override clinical judgment.
- This guideline will automatically be withdrawn from American College of Physicians (ACP) circulation five years after publication.
- These principles should be applied with caution to elderly patients because many of the diagnosis and treatment trials specifically excluded or underrepresented persons older than 65 years of age.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

The principles are being disseminated through publication (in whole or in part) in professional society journals (American Family Physician, Annals of Emergency Medicine, Annals of Internal Medicine), presentation at annual meetings of professional societies, and established channels at the Centers for Disease Control and Prevention (CDC).

The Web site on [antimicrobial resistance](#) of the CDC National Center for Infectious Diseases will be used to provide updates and obtain feedback from clinicians.

The guideline developer proposes that the "Principles of Appropriate Antibiotic Use for Acute Respiratory Tract Infections in Adults" will be most useful if they are incorporated into comprehensive quality improvement efforts that include patient education and delivery system improvements.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Snow V, Mottur-Pilson C, Cooper RJ, Hoffman JR. Principles of appropriate antibiotic use for acute pharyngitis in adults. Ann Intern Med 2001 Mar 20;134(6):506-8. [1 reference]

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2001 Mar 20

GUIDELINE DEVELOPER(S)

American College of Physicians - Medical Specialty Society

GUIDELINE DEVELOPER COMMENT

This guideline is one of the titles in this series on appropriate antibiotic use. The Clinical Efficacy Assessment Subcommittee of the American College of Physicians (ACP) reviewed and endorsed the guidelines and background papers. The Committee is made up of practicing internists, health services researchers and other academic experts.

SOURCE(S) OF FUNDING

American College of Physicians (ACP)

GUIDELINE COMMITTEE

Clinical Efficacy Assessment Subcommittee (CEAS)

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

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Clinical Efficacy Assessment Subcommittee Members: David C. Dale, MD (Chair); Patricia P. Barry, MD; William E. Golden, MD; Robert D. McCartney, MD; Keith W. Michl, MD; Allan R. Ronald, MD; Sean R. Tunis, MD; Kevin B. Weiss, MD; and Preston L. Winters, MD

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

ENDORSER(S)

American College of Physicians-American Society of Internal Medicine Board of Regents - Medical Specialty Society

GUIDELINE STATUS

This is the current release of the guideline.

The Web site on [antimicrobial resistance](#) of the Centers for Disease Control and Prevention (CDC) National Center for Infectious Diseases will be used to provide updates and obtain feedback from clinicians, as will the American College of Physicians (ACP) Web site.

GUIDELINE AVAILABILITY

Electronic copies: Available from the [American College of Physicians \(ACP\) Web site](#).

Print copies: Available from the American College of Physicians, 190 N. Independence Mall West, Philadelphia, PA 19106-1572.

AVAILABILITY OF COMPANION DOCUMENTS

The statements made by the American College of Physicians (ACP) in the guideline document are developed using the information provided in the following background papers:

- Gonzales R, Bartlett JG, Besser RE, Cooper RJ, Hickner JM, Hoffman JR, Sande MA. Principles of appropriate antibiotic use for treatment of acute respiratory tract infections in adults: background, specific aims, and methods. *Ann Intern Med* 2001 Mar 20;134(6):479-86 [56 references]. Electronic copies: Available from the [ACP Web site](#).
- Cooper RJ, Hoffman JR, Bartlett JG, Besser RE, Gonzales R, Hickner JM, Sande MA. Principles of appropriate antibiotic use for acute pharyngitis in adults: background. *Ann Intern Med* 2001 Mar 20;134(6):509-17 [77 references]. Electronic copies: Available from the [ACP Web site](#).

Print copies: Available from ACP, 190 N. Independence Mall West, Philadelphia, PA 19106-1572.

Information contained in these background papers is represented in the methodology fields of the NGC Summary (i.e., Methods to Collect Evidence; Methods to Analyze the Evidence; Cost Analysis).

PATIENT RESOURCES

The following is available (for purchase) to physicians for patient education purposes:

- A new threat to your health: antibiotic resistance. Patient education brochure. Atlanta (GA): Centers for Disease Control and Prevention (CDC), 2001.

Ordering information is available at the Centers for Disease Control and Prevention (CDC) National Center for Infectious Diseases, [Division of Bacterial and Mycotic Diseases Antibiotic Resistance Web site](#).

The brochure is distributed by the Public Health Foundation, 1220 L Street, N.W., Suite 350, Washington, DC 20005; Telephone, (877) 252-1200 (toll free in the U.S.) or (301) 645-7773 (for international orders), 9:00 a.m. - 4:30 p.m. (Eastern Time), Monday through Friday; Fax: (301) 843-0159; Web site: www.phf.org.

The following is also available:

- Antibiotics: Do you really need them? American College of Physicians (ACP) 2001.

This brochure is available at www.doctorsforadults.com/antibio.pdf or by ordering through American College of Physicians customer service (215)-351-2600.

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

NGC STATUS

This summary was completed by ECRI on May 24, 2001. The information was verified by the guideline developer as of July 30, 2001.

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